Claims

1. Construction material on a plant basis (PB), containing a mixture M1 of a binder and a mineralizer, characterized in that the weight proportions of the components constituting the mixture M1 are comprised between approx. 50 % and approx. 90 % for the binder and between approx. 10 % and approx. 50 % for the mineralizer, and in that the latter is composed of a mixture M2 of calcium carbonate $CaCO_3$ and magnesium carbonate $MgCO_3$, the weight proportions of the components constituting this mixture M2 being comprised between approx. 60 % and approx. 95 % for the $CaCO_3$ and between approx. 5 % and approx. 40 % for the $MgCO_3$.

2. Construction material according to claim 1, characterized in that the weight proportions of the components constituting the mixture M1 are preferably comprised between 6/10 and 4/5 for the binder and between 1/5 and 4/10 for the mineralizer.

3. Construction material according to claim 1 or 2, characterized in that the weight proportions of the components constituting the mixture M2 are preferably comprised between 2/3 and 9/10 for the $CaCO_3$ and between 1/10 and 1/3 for the $MgCO_3$.

4. Construction material according to any one of claims 1 to 4, characterized in that for 1 m3 of PB, the mixture M1 is composed of 75 kg of mineralizer M2 and of 225 kg of binder (weight proportions 25 % to 75 %) and the mixture M2 of 60 kg of calcium carbonate and of 15 kg of magnesium carbonate (weight proportions 80 % to 20 %).

5. Construction material according to any one of claims 1 to 3, characterized in that it contains an additional mixture M3 provided in defined application-oriented resp. - dependent proportions.

6. Construction material according to claim 5, characterized in that the mixture M3 consists of gypsum, preferably with starch added.

7. Construction material according to claim 5, characterized in that the mixture M3 consists of a flow agent.

8. Construction material according to claim 5 or 6, characterized in that for 1 m^3 of PB, the mixture M1 is composed of 60 kg of mineralizer according to M2 and of 100 kg of binder (weight proportions 37.50 % to 62.50 %) and the mixture M2 of 42 kg of calcium carbonate and of 18 kg of magnesium carbonate (weight proportions 70 % to 30 %) and the mixture M3 preferably consists of 200 kg of gypsum.

9. Construction material according to any one of claims 1 to 8, characterized in that the plant basis PB is advantageously composed of miscantus (China reed), hemp, softwood, sugar cane, straw, switchgrass (panicum virgatum), italian ryegrass, reed, individually or in different combinations, these vegetable raw materials being comminuted according to predetermined specifications.

10. Construction material according to claim 9, characterized in that the comminution produces elongate

particles such as fibers up to approx. 40 mm and/or a granulate of a grain size up to 8 mm.

11. Construction material according to claim 9 or 10, characterized in that the plant basis PB comprises a mixture of miscantus and softwood, preferably with respective volumetric contents of 85 % and 15 %.

12. Construction material according to claim 9 or 10, characterized in that the plant basis PB comprises a mixture of miscantus, softwood, and hemp, preferably with respective volumetric contents of 85 %, 15 %, and 5 %.

13. Construction material according to any one of claims 1 to 12, characterized in that the mixture {PB + M1} resp. {PB + M1 + M3} is mixed with such a quantity of mixing water that a predefined, intended consistency K_i is obtained.

14. Construction material according to claim 13, characterized in that for 1 m3 of PB, the quantity of mixing water is equal to approx. 300 liters.

15. Construction material according to claim 13 or 14, characterized in that a fungicidal preparation is admixed to said mixing water, preferably by the addition of approx. 2/3 liters of sodium hydroxide for 1,000 liters of mixing water.

16. Construction material according to any one of claims 1 to 15, characterized in that the binder is preferably Portland cement of strength class 52.5.

17. Method for producing a construction material according to any one of claims 1 to 16, characterized in that

- the mixture M1 consisting of the binder and the mineralizer is prepared in defined application-oriented resp. -dependent proportions,
- the mixture M3 composed of calcium carbonate $CaCO_3$ and magnesium carbonate $MgCO_3$ is prepared in defined application-oriented resp. -dependent proportions,
- as the case may be, the mixture M3 consisting of at least one additional material is prepared in defined application-oriented resp. -dependent proportions and admixed to the mixture M2, and in that
- the mixture {PB + M1} resp. {PB + M1 + M3} is mixed into a quantity of mixing water that is defined according to the desired consistency K_i.

18. Method for producing a construction material according claim 7, characterized in that
- the mixture M1 composed of the binder and the mineralizer is prepared according to defined application-oriented resp. -dependent proportions,
- the mixture M3 composed of calcium carbonate $CaCO_3$ and magnesium carbonate $MgCO_3$ is prepared according to defined application-oriented resp. -dependent proportions,
- the mixture M3 consisting of at least one additional material is prepared in defined application-oriented resp. -dependent proportions and admixed to the mixture M2, and in that
- the mixture {PB + M1 + M3} is extruded.

19. Method according to claim 17 or 18, characterized in that the preparation of the mixture {PB + M1} resp. {PB + M1 + M2} takes place in a single process step, the mineralizer being previously admixed to the binder directly in the binder plant according to determined specifications.

20. Structural element or object made of a construction material according to any one of claims 1 to 16.

21. Structural element according to claim 20, characterized in that it forms a sound-insulating element (1) and is provided with sound-insulating fins (2) for increasing the sound-absorbing surface area.

22. Sound-insulating structural element according to claim 21, characterized in that it is in the form of a panel.

23. Sound-insulating structural element according to claim 21 or 22, characterized in that it is built up of two layers, a supporting layer (3) with a preponderantly static function being provided with an absorber layer (4) for sound absorption.

24. Sound-insulating structural element according to claim 23, characterized in that it has a thickness (h) of approx. 25 cm, the supporting layer (3) with a density of approx. 1250 kg/m^3 having a thickness (g) of approx. 10 cm and the absorber layer (4) with a density of approx. 500 kg/m^3 being built up of fins (2) having a height (e) of approx. 10 cm, a width (d) of approx. 10 cm at the fin base, a width (a) of approx. 6 cm at the fin head and a distance (c) between the fins of approx. 3 cm at the fin base, and of a layer beneath the fins of a thickness (f) of approx. 5 cm, and in that the total weight of the structural element (1), related to the projected surface area, is approx. 205 kg/m^2.

25. Structural element according to claim 20, characterized in that it forms a cuboidal slope

reinforcement block (5), in that a tenon (8) and a groove (9) are provided for the form-fitting juxtaposition of several slope reinforcement blocks (5), and in that furthermore a recess (7) is provided on the side facing the soil and capable of being filled up by earth (12).

26. Slope reinforcement block according to claim 25, characterized in that sound-absorbing fins (2) are provided on the side of the slope reinforcement block (6) opposite the soil (12).

27. Slope reinforcement wall composed of slope reinforcement blocks according to claim 25 or 26, characterized in that several slope reinforcement blocks (5, 6) form a slope reinforcement wall (10) by form-fitting interconnection thereof, and in that the latter is inclined in the direction of the slope by the angle á with respect to the perpendicular, and in that a foundation (11) for absorbing the vertical forces as well as geo fleece mats (13) and tension bands (14) for absorbing the horizontal forces from the slope reinforcement wall (10) are provided.

28. Slope reinforcement wall according to claim 27, characterized in that the angle á is 10°.

29. Structural element according to claim 20, characterized in that it is pressed to form a perforated building brick.

30. Structural element according to claim 20, characterized in that hemp ropes of a diameter of approx. 12 mm are arranged at intervals of approx. 10 cm, in that hemp ropes of a diameter of approx. 8 mm are provided at

intervals of approx. 30 cm, and in that the structural elements have a length of approx. 3.5 m and are applicable as ceiling elements.

31. Structural element according to claim 20, characterized in that a timber framing is provided which fulfills the static function of the structural element, and in that the plant-based construction material fills up the timber framing two-dimensionally and fulfills a thermal insulation and noise protection function.

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